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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,070	07/14/2003	Nikolay Glushnev	GB920020068US1	6964
23550 7590 03/04/2009 HOFFMAN WARNICK LLC 75 STATE STREET 14TH FLOOR ALBANY, NY 12207			EXAMINER WOZNIAK, JAMES S	
			ART UNIT 2626	PAPER NUMBER
			NOTIFICATION DATE 03/04/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

### Office Action Summary

**Application No.**

10/619,070

**Applicant(s)**

GLUSHNEV ET AL.

**Examiner**

JAMES S. WOZNAK

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. In response to the office action from 9/30/2008, the applicant has submitted an amendment, filed 12/15/2008, amending independent claims 1, 5, and 9, while arguing to traverse the art rejection based on the limitation regarding the composition of a cut and paste code (*Amendment, Pages 10-13*). Applicant's arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments. Some of the applicant's further arguments (*Amendment, Pages 12-13*) have also been fully considered, but are moot with respect to the new grounds of rejection in further view of Holtz ("*Data Compression for Disc Files and Communication Networks*," 1996).

2. Since claim 5 now includes a computer system having a number of memory and processor hardware elements and to the extent that this limitation carries patentable weight, the examiner has withdrawn the previous 35 U.S.C. 101 rejection.

***Response to Arguments***

3. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to independent claims 1, 5, and 9, the applicant argues that Kaplan et al (*U.S. Patent: 5,594,641*) fails to teach a cut and past code including code that indicates how many characters should be cut from the end of a surface word and pasted and a gloss code that indicates which characters should be converted between upper and lower case (*Amendment, Pages 10-13*). In support of such arguments, the applicants allege that Kaplan only teaches the use of a finite state machine for encoding word variations and his inclusion of a null symbol fails to teach cutting or pasting any number of characters (*Amendment, Pages 10-13*). The applicant further argues that the prior art of record fails to teach indications of conversions of particular characters between upper and lower case (*Amendment, Pages 12-13*).

In response to the argument that Kaplan fails to teach the cut and paste code, the examiner notes that Kaplan teaches symbolic tag codes that represent orthographic variations of a base word stem in a FSM (*Col. 4, Line 19- Col. 5, Line 5*). These tag codes indicate operations which are to be performed on a base stem in order to arrive at a particular orthographic variation. In the example of "arrive", which is argued by the applicant- to end up with "arriving" a tag code is assigned which indicates that an "e" is to be removed or "cut" (*i.e., 1 letter*) from the base form "arrive" and then 3 letters, "ing", are to be added to the modified base form (*Figs. 10 and 11A*). In the situation of retrieving the actual base form, the tag codes would reference a null entry which would mean that 0 characters should be cut and pasted to a base form, thus, the tag code would still be a cut and paste code even in this occurrence which simply means that 0 cut and pastes are to occur. Thus for at least these reasons, the applicant's arguments have been fully considered, but are not convincing.

In response to the applicant's arguments directed to the upper-lower case conversion, these arguments have been fully considered, but are moot with respect to the new grounds of rejection further in view of Holtz ("*Data Compression for Disc Files and Communication Networks*," 1993).

The art rejections of the further dependent claims are traversed for reasons similar to the independent claims (*Amendment, Page 13*). In regards to such arguments, see the response directed towards the independent claims.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 1-4** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claim(s) 1** and its associated dependent claims is/are rejected under 35 USC 101 as not falling within one of the four statutory categories of invention. While the claim(s) recite a series of steps or acts to be performed, a statutory "process" under 35 USC 101 must (1) be tied to another statutory category (such as a manufacture or a machine), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claim(s) neither transform underlying subject matter (*i.e., only a manipulation of abstract text data is performed without a physical transformation*) nor positively recite structure associated with another statutory category (*i.e., no physical hardware is recited in the claim, wherein even the*

*database does not rely on a physical memory, and thus, is merely a data structure of a collection of data. Furthermore these steps could be performed mentally or by a human by searching a dictionary, writing orthographic variations in an illustrated state structure, and writing down cut and paste codes to achieve the variations, thus they do not necessarily involve the use of physical hardware.), and therefore do not define a statutory process.*

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1, 3, 5, 7, 9, 11, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan et al (*U.S. Patent: 5,594,641*) in view of Holtz ("*Data Compression for Disc Files and Communication Networks*," 1993).

With respect to **Claims 1 and 5**, Kaplan discloses:

Obtaining orthographic variations of dictionary words (*receiving word stems and variations, Col. 4, Lines 19-39*);

Explicitly storing substantially all orthographic variations of words in a finite state transducer database (*word stems and all variations stored in a finite state transducer database, Col. 4, Line 19- Col. 5, Line 5*);

Generating and Storing, for each of the orthographic variations, a cut and paste code, which indicates how many character should be cut from the end of a surface form of a word and pasted to produce a particular variation (*stored coded mapping of variation rules merged into a lexical transducer and readable by a computer, wherein variations are cut and pasted onto a stem form, Col. 4, Line 19- Col. 5, Line 5 and Col. 8, Line 59- Col. 9, Line 6; and Fig. 10-11a.; further tag codes that are indicative of a change in case between a stem and variant form, Col. 4, Line 40- Col. 5, Line 5; and example of case variation in a FST, Col. 7, Line 56- Col. 8, Line 13*).

Kaplan also discloses a computer having a central processing unit and RAM, ROM, and disk memories (*Col. 7, Lines 43-55; and Fig. 1*).

Although Kaplan discloses cut and paste tag codes for word variations and further notes that multiple rules can be added together (Col. 5, Line 65- Col. 6, Line 10), Kaplan does not explicitly disclose a further code that indicates whether at least part of the orthographic variation should be converted between upper and lower case, however, Holtz recites such a orthographic variation rule (*Pages 149, right column*).

Kaplan and Holtz are analogous art because they are from a similar field of endeavor in linguistic compression. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kaplan with the lower/upper case conversion rule taught by Holtz in order to achieve a more compact dictionary (*Holtz, Page 149, right column*).

With respect to **Claims 3, 7, and 11**, Holtz discloses the upper-lower case conversion as applied to claims 1 and 5.

With respect to **Claim 9**, Kaplan discloses the method for producing a lexical transducer as applied to claim 1 as implemented as a program stored on a computer readable medium (*Col. 7, Lines 46-55*).

With respect to **Claim 13**, Kaplan shows a single orthographic variation segment indicating a plurality of root words (*Fig. 11A*).

8. **Claims 2, 6, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan et al in view of Holtz and further in view of Lee et al (*U.S. Patent: 4,939,639*).

With respect to **Claims 2, 6, and 10**, Kaplan in view of Holtz discloses the method for generating a lexical transducer as applied to Claim 1. Kaplan in view of Holtz does not specifically suggest form variation between single and double character sequences, however Lee recites a linguistic dictionary that indicates corresponding single and double character sequences (*Col. 10, Line 55- Col. 11, Line 6*).

Kaplan, Holtz, and Lee are analogous art because they are from a similar field of endeavor in linguistic dictionary processing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kaplan in view of Holtz with the correlation of related single and double character sequences taught by Lee in order to provide a means for transliteration for characters that do not appear in a user's language (*Lee, Col. 10, Lines 43-54*).

9. **Claims 4, 8, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan et al in view of Holtz and further in view of Schabes et al (*U.S. Patent: 6,424,983*).



With respect to **Claims 4, 8, and 12**, Kaplan in view of Holtz discloses the method for generating a lexical transducer as applied to Claim 1. Kaplan in view of Holtz does not specifically suggest storing composite word forms having unaccented characters and storing expanded word forms having the base letter form and an accent mark, however Schabes discloses a lexicon utilizing a finite state machine that associates words without accents (composite form) with alternative word forms having the base letters and accent marks (expanded form) (*Col. 21, Line 66- Col. 22, Line 30*).

Kaplan, Holtz, and Schabes are analogous art because they are from a similar field of endeavor in linguistic dictionary processing. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kaplan in view of Holtz with the concept of incorporating accent data into a lexicon as taught by Schabes in order to enable dictionary use in a non-English language context (*Schabes, Col. 22, Lines 17-21*).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See PTO-892.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James S. Wozniak/  
Primary Examiner, Art Unit 2626